

at X', is placed. To one side of the lever X, and bolted to the truck, is a rack, Y, into the teeth of which engages a tooth *x*, on the lever-arm X. To operate this device I proceed as follows: The band W is passed around the barrel near the ends or heads of same hoops, and the end W' is passed over the short arm of lever X. The lever is then pressed down until the staves are compressed and the end hoop can be more easily shoved on. The tooth *x*, engaging with the teeth of the rack Y, prevents the lever X returning until disengaged by a lateral movement. The driving-shaft Q is supported overhead in brackets *q*, and is supplied with two driving band-wheels, R R', of different diameters, on each end, and over the band-wheels D. The pulleys R drive the idler-pulleys D' by a band, *r*, in one direction, and the large pulleys R' drive the idlers D² in the opposite direction by the twist in the band *r'*. These bands *r* and *r'* are shifted to the driving-wheel D, respectively, by the bars T and U, provided with teeth, between which the bands move, which bars slide in standards S and are operated independently of each other by levers *t* and *u* and by bars T' and U'. The bands are so arranged that when one driving-wheel, D, is set in operation the other one is also operated. The movements are always started by the operator, but can be brought to rest automatically by the stop U'' acting upon the bars T and U to throw the band off the driving-pulley on to the idlers.

The operation is as follows: The heads A A being screwed back, the arms H are thrown out by lever O. A barrel, Z, being placed upon the truck M with its loose bands V on, it is run into position between the two heads A A, and the propelling-bands *r* are then shoved over upon the driving screw-pulleys D, causing the screws C to be forced toward barrel, carrying the heads with them. The said heads are then reciprocated simultaneously in opposite directions; then the lever O is disengaged, and the spring G, coming into play, draws the toes J and arms H down tightly against the barrel Z, and as the toes move toward the middle of the barrel they catch first the largest hoop and push it up tightly. Then the motion is reversed until the toes are back of the second hoop, when it is again reversed to force this hoop up, and so on to the end hoop, both sides of the barrel being hooped simultaneously. The lever O has not to be touched except at the starting of the operation on a new barrel, and then for the purpose of passing the two outer hoops, and to operate on the middle hoops first. As the toes J move back over a hoop the spring G gives way sufficient to allow the toes to pass without displacing it. When a barrel is hooped it is run off and another truck and barrel is run in place between the two heads. During the forcing up of the hoops the barrel are partly held by the arms H, and adjusts itself to them. A safety mechanism in the form of a spring, C², can be placed

between the head A and a collar on the screw C, the end C' of the same being free to slide in the hub of head A. This allows any undue strain to be taken up by the spring and not break the hoops.

Having now described my invention, what I claim as new, and desire to secure by Letters Patent, is—

1. The combination of the two reciprocating heads A, lever-arms H, pivoted to the peripheries of said heads, levers I, pivoted to the heads and operating the arms H, shafts F, situated within the heads and operating the levers I, and spring G to operate upon the above mechanism to keep the arms H down upon the barrel, substantially as and for the purpose specified.

2. A toe for a hooping-machine provided with guide end, *j*, acute-angled ledge J', and knife-edge *j'*, substantially as and for the purpose specified.

3. In a hooping-machine, the combination of two reciprocating heads, A, lever-arms H, pivoted to the peripheries of said heads, and provided with toes J to catch the hoops, levers I, pivoted to the heads and actuating the arms H, shaft F, situated within the heads and operating the levers I, spring G to operate the above mechanism to keep the arms H down upon the barrel, levers L, pivoted to the heads and operating the shafts F, lever O to operate the levers L, and bars P to connect the lever O with levers L, substantially as and for the purpose specified.

4. The reciprocating head A, provided with pivoted arms H, in combination with a driving-screw, C, arranged to slide in said head, band-wheel D, and a safety-spring, C², substantially as and for the purpose specified.

5. The combination of two oppositely-reciprocating heads, A, provided with pivoted arms H about their peripheries, levers I, shaft F, and spring G, or their equivalent, with a support for the barrel while being operated on, arranged between the heads A, and provided with clamping or compressing mechanism consisting of bell-crank lever X, provided with tooth *x*, rack Y, and band W, for the purpose of compressing the barrel at both of its ends, all constructed substantially as shown and described, and for the purpose specified.

6. The combination, with two reciprocating heads, A, provided with arms H, with screw C, band-wheels D D' D², driving-shaft Q, driving-wheels R R', bands *r r'*, bars T U, levers *t u*, bars T' U', levers L, and mechanism to cause the arms H to be pressed upon the barrel, rods P, and lever O, substantially as and for the purpose specified.

In testimony of which invention I hereunto set my hand.

MARIA E. BEASLEY.

Witnesses:

ROBT. A. CAVIN,
R. M. HUNTER.